| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/632,839 | 08/04/2003 | Yoav Valadarsky | 82525 | 5057 |

| | | | EXAMINER |
|---|---|---|---|

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| EXAMINER |
|---|
| O CONNOR, BRIAN T |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2616 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 04/20/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 10/632,839 | VALADARSKY ET AL. |
| | Examiner | Art Unit | |
| | Brian T. O'Connor | 2616 | |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on <u>04 August 2003</u>.

2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-21</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>04 August 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All  b)☐ Some * c)☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>8/4/2003</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

## DETAILED ACTION

### *Drawings*

1.    The drawings are objected to because Figure 1A contains the reference word "**PHD**" on the top left and there is no definition of said "**PHD**" in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

2.    The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter.  See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).  Correction

of the following is required: The terms **"PDH"** and **"SDH"** recited in claims 11, 12, 15,

and 20 are not clearly defined in the specification.

3.      The abstract of the disclosure is objected to because the abstract contains more

than one paragraph and contains more than 150 words; according to 37 CFR 1.72 (b)

the abstract may not exceed 150 words in length and must be limited to a single

paragraph.  Correction is required.  See MPEP § 608.01(b).

### Claim Objections

4.      Claim 14 is objected to because of the following informalities:  Claim 14 does not

clearly describe the module(s) or a relationship between the switching device modules

and a cellular communication network so that the switching device operates on data

streams related to the cellular communication network.  Appropriate correction is

required.

### Claim Rejections - 35 USC § 112

5.      The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.      Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 8 recites the limitation **"the basic switching fabric"** on line 2.  There is

insufficient antecedent basis for this limitation in the claim or any of its parent claims

(claims 1, 6, and 7).

Claim 9 recites the limitation **"the basic switching fabric"** on line 3-4. There is

insufficient antecedent basis for this limitation in the claim or any of its parent claims

(claims 1, 6, and 7).

### Claim Rejections - 35 USC § 102

7.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.      Claims 1-6, 10, 11, 13, 16-19, and 21 are rejected under 35 U.S.C. 102(e) as

being anticipated by Parruck et al. (US 7,139,271; hereafter Parruck).

**With respect to claim 1**, Parruck discloses a router (100 of Figure 4) for

supporting Local Area Networks (LANs) and Metro Area Networks (MANs), the router

contains multiple Input/Ouput I/O ports (115, 116, 117, 118, 136, 137 of Figure 4) for

receiving and sending network information carried by ATM or Internet protocols, an

internal switch fabric (105 of Figure 4) that works with PCI protocols on a SPI-4 bus,

multiple line cards (1010, 102, 103, 104 of Figure 4, 125, 126 of Figure 5; viewed as

adaptation functional blocks) connected to the switch fabric and performing conversion

of incoming information to a format compatible with the switch fabric; and a PCI bus

(131 of Figure 4, 124 of Figure 5; viewed as a distribution block) that classifies incoming

information from the I/O ports and set a connection to a Multi-Service SAR for

processing and forwarding to the switch fabric.

**With respect to claim 2**, Parruck further discloses the switching fabric performs

ATM functions by identifying incoming cells as ATM cells and processing in accordance

with the identification (column 13, lines 8-35).

**With respect to claim 3**, Parruck further discloses the Ingress MS-SAR device

(viewed as equivalent to an adaptation functional block) is responsible for reading an

incoming cell/packet's identification and processing/forwarding to the switch fabric and

thus is an integral part of the switch fabric (column 13, lines 8-35).

**With respect to claim 4**, Parruck further discloses the PCI bus (131 of Figure 4;

viewed as equivalent to a distribution block) is connected to every input interface port

and every output interface port.

**With respect to claim 5**, Parruck further discloses the PCI bus (131 of Figure 4;

viewed as equivalent to a distribution block) is connected to every input interface port

and every output interface port.

**With respect to claim 6**, Parruck further discloses the PCI bus (131 of Figure 4;

131 of Figure 5; viewed as equivalent to a distribution block) is connected to an ingress

device (125 of Figure 5); connected to an egress device (126 of Figure 5); and

connected to every input interface port and every output interface port therefore

allowing information to enter and exit the PCI bus.

**With respect to claim 10**, Parruck further discloses a reassembly device (205 of

Figure 10) and interface monitoring device (206 of Figure 10) for check the full status of

outgoing and incoming queues; if the status is full then no more cells/packets are added

those queues therefore protection from data loss is provided by a control interface to the

PCI bus (column 20, lines 7-45).

**With respect to claim 11**, Parruck further discloses that the router processes

incoming data information comforting to the ATM protocol (115, 116 of Figure 4).

**With respect to claim 13**, Parruck further discloses that the line cards (101, 102,

103, 104 of Figure 4; viewed as equivalent to adaptation functional blocks) contain

multi-service SAR devices (126 of Figure 5) for performing egress operations.  The

egress operations of the line cards are viewed as equivalent to inverse multiplexing over

ATM operations because they accept a number of ATM processed flows from the switch

fabric and time-multiplex the flows out of a port (136 of Figure 4).

**With respect to claim 16**, Parruck discloses a router (100 of Figure 4) for

supporting Local Area Networks (LANs) and Metro Area Networks (MANs), the router

contains multiple Input/Ouput I/O ports (115, 116, 117, 118, 136, 137 of Figure 4) for

receiving and sending network information carried by ATM or Internet protocols, an

internal switch fabric (105 of Figure 4) that works with PCI protocols on a SPI-4 bus,

multiple line cards (1010, 102, 103, 104 of Figure 4, 125, 126 of Figure 5; viewed as

adaptation functional blocks) connected to the switch fabric and performing conversion

of incoming information to a format compatible with the switch fabric; and a PCI bus

(131 of Figure 4, 124 of Figure 5; viewed as a distribution block) that classifies incoming

information from the I/O ports and set a connection to a Multi-Service SAR for

processing and forwarding to the switch fabric.  In addition, the router has line cards

(103, 104 of Figure 4) that sending data flows out of the router via I/O ports (118, 137 of

Figure 4) and the I/O ports are separated from the switch fabric and line card by multi-

service SAR devices (125, 126 of Figure 5) so that adaptive connects are conducting

between I/O ports on one side and line card on the other side of the router.

**With respect to claim 17**, Parruck further discloses the switching fabric

performs ATM functions by identifying incoming cells as ATM cells and processing in

accordance with the identification (column 13, lines 8-35).

**With respect to claim 18**, Parruck further discloses that the line cards (101, 102,

103, 104 of Figure 4; viewed as equivalent to adaptation functional blocks) contain

multi-service SAR devices (126 of Figure 5) for performing egress operations. The

egress operations of the line cards are viewed as equivalent to inverse multiplexing over

ATM operations because they accept a number of ATM processed flows from the switch

fabric and time-multiplex the flows out of a port (136 of Figure 4).

**With respect to claim 21**, Parruck further discloses line cards (1010, 102, 103,

104 of Figure 4, 125, 126 of Figure 5; viewed as adaptation functional blocks) are

performing conversion of incoming information to a format compatible with the switch

fabric.

**With respect to claim 19**, Parruck discloses a method for switching data flows in

a LAN or MAN with a router (100 of Figure 4), the router contains multiple Input/Ouput

I/O ports (115, 116, 117, 118, 136, 137 of Figure 4) for receiving and sending network

information carried by ATM or Internet protocols, an internal switch fabric (105 of Figure

4) that works with PCI protocols on a SPI-4 bus, multiple line cards (1010, 102, 103,

104 of Figure 4, 125, 126 of Figure 5; viewed as adaptation functional blocks)

connected to the switch fabric and performing conversion of incoming information to a

format compatible with the switch fabric; and a PCI bus (131 of Figure 4, 124 of Figure

5; viewed as a distribution block) that classifies incoming information from the I/O ports

and set a connection to a Multi-Service SAR for processing and forwarding to the switch

fabric.  In addition, the router has line cards (103, 104 of Figure 4) that sending data

flows out of the router via I/O ports (118, 137 of Figure 4) and the I/O ports are

separated from the switch fabric and line card by multi-service SAR devices (125, 126

of Figure 5) so that adaptive connects are conducting between I/O ports on one side

and line card on the other side of the router in a format of ATM or Internet protocols.

### Claim Rejections - 35 USC § 103

9.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.    Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Parruck in view of Tsukamoto et al. (US 6,498,794; hereafter Tsukamoto).

**With respect to claim 7**, Parruck fails to disclose an additional switch fabric with

additional functional blocks.

Tsukamoto, in an analogous field of endeavor, discloses an ATM processing

block (Abstract) contains an extra switch fabric (36 of Figure 4; column 7, lines 12-28)

with extra control modules (40 of Figure 4).

Tsukamoto realizes the benefit of greater efficiency in processing ATM flows over SONET channel by mapping cells to specific signals in a network router (column 1, lines 60-67). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Tsukamoto with the device of Parruck.

**With respect to claim 8**, Parruck fails to disclose an additional switch fabric that is the same type as the first switch fabric.

Tsukamoto, in an analogous field of endeavor, discloses an ATM processing block (Abstract) contains an extra switch fabric (36 of Figure 4; column 7, lines 12-28) that performs cross-connection processing (column 7, lines 14-16) in the same manner as the switch fabric of Parruck.

Tsukamoto realizes the benefit of greater efficiency in processing ATM flows over SONET channel by mapping cells to specific signals in a network router (column 1, lines 60-67). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Tsukamoto with the device of Parruck.

**With respect to claim 9**, Parruck fails to disclose an additional switch fabric with additional functional blocks that uses a separate protocol for processing data flows.

Tsukamoto, in an analogous field of endeavor, discloses an ATM processing block (Abstract) contains an extra switch fabric (36 of Figure 4; column 7, lines 12-28) with extra control modules (40 of Figure 4) that processes the ATM cells with VT level signaling protocols.

Tsukamoto realizes the benefit of greater efficiency in processing ATM flows over SONET channel by mapping cells to specific signals in a network router (column 1, lines

60-67). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Tsukamoto with the device of Parruck.

11.    Claims 12, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parruck in view of Slater (US 6,240,106).

**With respect to claim 12**, Parruck fails to specifically teach processing PDH and SDH/SONET high order and low order data flows. However Parruck does teach that the PCI bus (viewed as the distribution block) is connected to multi-service SAR modules (125, 126 of Figure 5) that perform data flow processing.

Slater, in a similar field of endeavor, discloses a SDH de-multiplexing device (6 of Figure 1; 20, 21, 25, 28, 30, 32, 35, 36 of Figure 2) for processing SDH data signals (column 2, lines 31-36), high order components (column 2, lines 54-58), low order components (column 3, lines 5-7), and is compatible with PDH signal processing (column 4, lines 1-9). One of ordinary skill in the art would realize that the SAR modules of Parruck could be programmed so they perform SDH de-multiplexing as taught by Slater.

One of ordinary skill in the art would realize the benefit of greater market applicability and growth by handling SDH and PDH data flows in a router/switch device. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Slater with the device of Parruck.

**With respect to claim 15**, Parruck fails to specifically teach processing PDH and SDH/SONET high order and low order data flows. However Parruck does teach that the PCI bus (viewed as the distribution block) is connected to multi-service SAR

modules (125, 126 of Figure 5; viewed as means for formatting data flows) that perform

data flow processing.

Slater, in a similar field of endeavor, discloses a SDH de-multiplexing device (6 of

Figure 1; 20, 21, 25, 28, 30, 32, 35, 36 of Figure 2) for processing SDH data signals

(column 2, lines 31-36), high order components (column 2, lines 54-58), low order

components (column 3, lines 5-7), and is compatible with PDH signal processing

(column 4, lines 1-9). Slater also teaches a SDH multiplexing device (4 of Figure 1) for

sending data flows in a SDH/SONET format. One of ordinary skill in the art would

realize that the SAR modules of Parruck could be programmed so they perform SDH

de-multiplexing and multiplexing as taught by Slater.

One of ordinary skill in the art would realize the benefit of greater market

applicability and growth by handling SDH and PDH data flows in a router/switch device.

Thus it would have been obvious to one of ordinary skill in the art at the time of the

invention to use the method of Slater with the device of Parruck.

**With respect to claim 20**, Parruck fails to specifically teach processing PDH and

SDH/SONET high order and low order data flows. However Parruck does teach that

the switching fabric performs ATM functions by identifying incoming cells as ATM cells

and processing in accordance with the identification (column 13, lines 8-35).

Slater, in a similar field of endeavor, discloses a SDH de-multiplexing device (6 of

Figure 1; 20, 21, 25, 28, 30, 32, 35, 36 of Figure 2) for processing SDH data signals

(column 2, lines 31-36), high order components (column 2, lines 54-58), low order

components (column 3, lines 5-7), and is compatible with PDH signal processing

(column 4, lines 1-9). Slater also teaches a SDH multiplexing device (4 of Figure 1) for sending data flows in a SDH/SONET format. One of ordinary skill in the art would realize that the SAR modules of Parruck could be programmed so they perform SDH de-multiplexing and multiplexing as taught by Slater.

One of ordinary skill in the art would realize the benefit of greater market applicability and growth by handling SDH and PDH data flows in a router/switch device. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Slater with the method of Parruck.

12.    Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parruck in view of Ofek et al. (US 7,139,277; hereafter Ofek).

**With respect to claim 14**, Parruck does not explicitly teach using the router in a cellular communication network.

Ofek, in a related field of endeavor, discloses a SONET traffic switch (002, 450,455, 490 of Figure 4A) that can be used to access wireless sub-networks (column 4, lines 4-18).

One of ordinary skill in the art would realize the benefit of greater market applicability and growth by using the router or switch of Parruck with a wireless network as taught by Ofek. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Ofek with the device of Parruck.
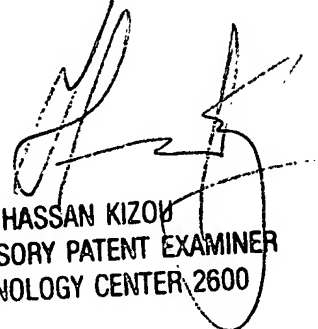
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. O'Connor whose telephone number is 571-270-1081. The examiner can normally be reached on 9:00AM-6:30PM, M-F, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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April 2, 2007

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